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The power of geographical boundaries: Cultural, political, and economic border effects in a unitary nation

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**The power of geographical boundaries:
Cultural, political, and economic border effects in a unitary nation**

by

Bo Won Chang

A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of
MASTER OF ARTS

Major: Political Science

Program of Study Committee:
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ABSTRACT

Geography plays a significant, fundamental role in shaping outcomes in human societies. Among other geographical elements, borders have significant implications—they are not only geographical figures, but also political creatures. Against previous theories that have studied border effects along with institutional differences mostly about economic implications, this thesis considers how sub-national borders with weak jurisdictions affect cultural, political, and economic phenomena using data from South Korea. Unlike international borders and intra-national borders in a federal state, this thesis suggests borders in a unitary nation have less economic effects, but more cultural and political effects.

CHAPTER 1. INTRODUCTION

It will never be answered unambiguously what determines human society the most. Needless to say, numerous elements will synthetically form a way for people to live. However, it seems obvious that among other elements geography plays a significant, fundamental role in shaping outcomes in human societies.¹ It is natural that geographical features provide the foundation of countries; where a nation is physically located influences patterns of endogenous lifestyle and who are the neighbor countries for the nation is likely to set up exogenous international relations (Gottmann 1951, 154).² These circumstances imply that geographical conditions have effects on countries' history and culture. Not only for countries but also for individuals, geography determines many aspects of people's sense of self; for instance, depending on the place where a person is born or grows up, he or she will have a different cultural identity, different nationality, and different institutional services for his or her lifetime.

This suggests that geography has shaped a wide variety of the many aspects of human life over time and that outcomes affected by geography impact human behavior. In this sense that geography and human beings mutually affect each other, borders appear to be worth examining because they are not only physical, geographical figures, but also political

¹ The role of geography has been emphasized in numerous fields of studies, such as biology, journalism, and philosophy. Apart from its extensive sense, this thesis focuses more on political-related issues.

² Gottman (1951, 154) expounded on the interrelationships between geography and international relations, saying "the environment provides the permanent material foundation both of nationalism, insofar as the nation is defined and affected by the territory it occupies, and of power, for a territory for the up-building of its status among other nations."

structures (Alvarez 1995, 449);³ borders have tended to be intentionally created by people in accord with their political perspectives, except in the case where are inevitable environmental constraints, such as mountains and rivers. Although many borders have been consciously designated by people to define jurisdictional, administrative divisions, and have become important due to the physically partitioned space, they have also mentally affected human beings in shaping the way people think about their nation-state.⁴ National borders create imagined communities, in which are limited by boundaries and are sovereign where people tend to be presumably aware of their sovereignty with finite frontiers (Anderson 1983, 7). This factor about state sovereignty imposes more political implications on borders such as nationality and regional identity.

As their origination suggests, since borders contain both geographical and political implications, they are likely to bring crucial consequences in domestic and international politics. Although some scholars believe we are living in a world where state borders are becoming obsolete and are no longer barriers to the movement of goods, ideas, and people,⁵ there have been widespread arguments that borders are still significant and even that they have become more important in the process of globalization.⁶

³ Explaining borders as those that are directly relevant to research in political anthropology, Wilson and Donnan (1998) stated that borders are physical, literal structures of the state, which also structure a range of meaning and belonging associated with a variety of identities.

⁴ Alvarez (1995), for instance, suggests that the “borderlands genre is a basis upon which to redraw our conceptual frameworks of community and culture.”

⁵ Typically, Ohmae (1990) invented the idea of the “borderless world,” explicitly shown in the title of his book, regarding international borders have largely disappeared on a map showing economic activities.

⁶ Borders have been argued to be important barriers to economic trade in the field of economic geography; moreover, they have been emphasized under the process of globalization because ethical

However, not all borders have the same significance; some borders offer important ramifications while others do not create distinguishing implications.⁷ Theoretically, international boundaries between two or more countries appear to have greater substantial effects on political, cultural, and economic outcomes than do boundaries within countries. The fact that national boundaries are disjointed points to autonomous countries partitioning jurisdictions enables them to have relatively large potential effects. On the other hand, sub-national borders seem to be less influential because they are more purely administrative boundaries. Nonetheless, intra-national borders would have bifurcated characteristics depending on type of government—whether it is a unitary nation or a federal state—since borders within federal states, like the United States, also function as fairly powerful jurisdictional borderlines.

Thus, existing theories on border effects could be classified as follows:

Table 1.1. The gap between existing theories on border effects.

| Existence of Border | | Conditions | Outcome | Examples |
|----------------------------|---|------------------------------|----------------|---|
| BORDERNESS | + | Institutional Differences | ➔ Effects | National borders and sub-national borders in federal states |
| BORDERNESS | + | NO Institutional Differences | ➔ ? | Sub-national borders in unitary nations |
| BORDERLESS | + | NO Institutional Differences | ➔ NO Effects | |

and religious perspectives seem to become more important than the past. These arguments will be covered below.

⁷ Borders could be defined in several ways (Starr and Most, 1976); however, even regarding the same kind of borders, not all border communities have the same characteristics, since not all are dissected by the border in the same way (Wilson and Donnan, 1998). This thesis generally addresses borders that divide physical places on the contiguous land.

According to previous theories as summarized in Table 1.1, borderness has been studied with institutional changes across borders, say, the borders between different countries or different states within a federation; borderlessness is necessarily assumed along with no institutional change and results in no effects. This suggests border effects and institutional distinctions such as policy differences have not been separated in border studies. To be more specific, therefore, it would be worth looking at places with borderness, but without institutional differences, to examine pure border effects regardless of institutional consequences. Borders are not only jurisdictional boundaries, but also affect a wide variety of human behaviors as mentioned above. Additionally, this study will be posed in between the two previous studies as shaded in Table 1.1.

By this simple logic, this thesis will answer the question in the grey box on Table 1.1 by exploring how human behavior would be affected by sub-national borders in a unitary nation like South Korea with less powerful jurisdictional boundaries. It will follow the three categories of cultural, political, and economic perspectives.

Research Questions

The following questions will be examined and answered:

1. To what extent do border effects exist in borderlands with weak jurisdictional boundaries such as sub-national borders in a unitary nation?
2. If they do exist, what are the cultural, political, and economic effects on human behaviors?

This thesis proceeds along the following lines. Chapter 2 will provide theoretical background for this research pointing out four hypotheses in three issue categories; Chapter 3 will explain the case selection and methodology used throughout the study; Chapter 4 will analyze the main results and interpret them; lastly, the conclusion in Chapter 5 will describe the overall implications, additional discussions and suggestions for further research.

CHAPTER 2. THE CONCEPT OF BORDER EFFECTS

2.1. Existing Explanations and Empirical Findings

As emphasized above, geography plays a major role in human societies. It has shaped, preserved, and transformed the way of human life. Nevertheless, geographical study had laid outside the mainstream of political and economic study until recent attention in the 1990s.⁸ One of the most important reasons would be that it is usually difficult to determine a direct causation between regional geographical conditions and human behavior.⁹ Therefore, scholars in the field of economic geography condense human behavior to regional institutions as they attempt to explain the relationship between geography and institutions. Although it still seems challenging to take geographical features into account because of their unique difficulty of being simplified, there are two big mainstream ideas—environmental determinism and spatial economy—relating closely to political geographic perspectives.

Scholars, focusing on the role of inherent features of the landscape as significant determinants of shaping development patterns, are represented by Jeffrey Sachs. They maintain that physical location of a nation offers favorable domestic environments to economic growth for some countries, but unfavorable ones for others and that these

⁸ When there was a surge of interest in the geographical aspects of development, Krugman (1999) mentioned it is surprising that “it took so long for this interest to become a main stream concern within economics.” He has attributed the negligence of spatial issues in economics to the tendency that favors modeling countries as dimensionless points and with spaceless representation (Krugman, 1991).

⁹ Starr and Most (1976, 582-585) pointed out the difficulty of conceptualization, operationalization, and measurement of borders and of connecting them to human behaviors. They assumed little attention has been paid to borders, while borders are important in understanding the shape of the international system and are part of those structural characteristics that affect the interaction opportunities of nations.

environmental conditions affect shape to institutional circumstances (Gallup, Sachs, and Mellinger, 1998; Sachs, 2001, 2003). Krugman, on the other hand, is well-known for the group of scholars who instead attribute spatially uneven economic outcomes to regional institutions. Krugman and others, who adhere to the so-called the new economic geography (NEG), account for how strongly endogenous decisions affect the distribution of economic activities across space and regional disparities (Krugman, 1991; Fujita et al., 1999).

These two mainstream approaches are seemingly contradictory; however, both consider endogenous location as an important determinant that makes for regional differences. In this sense, border studies appear to be one of the significant areas to examine,¹⁰ in that borders, geographical creations, also bring about meaningful variations.¹¹

To the extent that borders demarcate both geographical and institutional divisions, they need to be specified in terms of their jurisdictional power. In short, international borders and sub-national borders within a federal state function as powerful jurisdictional boundaries, implying large potential effects; whereas, sub-national borders in a unitary nation would play a role of dividing nations into units more like administrative districts because of their weak jurisdictional ramifications. Although most borders often are assumed to transform some human behaviors, they vary in how much and in which way they influence human beings.

¹⁰ As borders are important figures by themselves, borderlands also tend to be worth examination. Wilson and Donnan (1998) emphasized borderlands as contradictory zones of culture and political power.

¹¹ Like these literatures on economic geography regarding environments and institutions, border studies have mainly focused on their effects on economic activities. Borders, however, appear to be in the middle of geography and institutions. They have more geographical implications than institutions and more political consequences than the natural environment. Thus, they should be examined in more than just an economic perspective; they may influence cultural and political phenomena.

Since previous literatures has studied border effects with two national and sub-national groups, their arguments are reviewed within this thesis's basic question.

National border studies

In the field of political science, it was true that borders were simply of very little interest to students of international relations despite their possible roles (Starr and Most, 1976). Over the past 30 years, however, borders have been studied from a number of perspectives, especially in political economy along with rising interest in geographical conditions.

In terms of economic outlook, Ohmae (1990, 172) provoked the discussion about borders, arguing the end of the nation state, because international borders have little to do any longer with the movement of capital. Although his claim sparked further discourse on international borders, a “borderless world” in his terms seems plausible, but not practicable, in the real world. Indeed, national borders have been consistently documented as having negative impacts on the volume of international trade, supported by substantial data.¹²

Describing their empirical findings as border effects, political economists insist national borders do make a difference (McCallum, 1995; Helliwell, 1996; Evans, 2003). McCallum (1995) documented the “home bias” in international trade. He compared trade flows among Canadian provinces with those between Canadian provinces and U.S. states. He calculated that Canadian provinces traded about twenty times as much with each other as they did with U.S. states of a similar size and distance. His claim was very compelling

¹² Proving the presence of border effects has attracted scholastic attention because it seems to claim borders have something to do with international trade beyond the gravity model, started by Anderson (1979) and commonly used to explain trade.

because, first and foremost, it empirically supports the idea that borders have more effects on economic performance than does physical distance. Also, since Canada and the U.S. seem to have the lowest trade barriers—sharing similarity in language, culture, and institutions¹³—their border effects more clearly show their implications.

Other scholars confirmed McCallum's view of borders as trade barriers. According to Helliwell (1996, 1998), even Quebec, a province that does not share language and culture with other provinces in Canada, traded twenty times more with other provinces within the nation than it did with U.S. states. Moreover, scholars like Wei (1996) and Nitsch (2000) found a strong home bias within the Organization for Economic Cooperation and Development (OECD) countries and European Union (EU) national borders. Wei (1996) demonstrated that an average country imports about two and one-half times as much from itself as from an otherwise identical foreign country, after controlling for size and distance. Nitsch (2000) examined EU countries in a more collaborative economic union and found their intra-national trade is about ten times as high as international trade with an EU partner country of similar size and distance.

As seen above, their overall argument suggests decisive national border effects on international trade patterns. It straightforwardly maintains that national borders still are important. Then, this raises a further question about borders: Do sub-national borders also make a difference?

¹³ In other words, border effects found at permeable boundaries tend to be more significant, since this excludes other possible effects and draws attention to border effects themselves. This fact is associated with the topic of this thesis: border effects with largely permeable sub-national boundaries.

Sub-national border studies

Continuing from comparative studies of intra- and international trade patterns showing national border effects, the effects of sub-national territorial boundaries have been also studied. In this case, the U.S. most often has been taken as the observed country owing to the data availability and the fact that it is a federal state.¹⁴ Thus, how U.S. state borders affect human behavior is the goal they try to find.

Following “home bias” literatures, Wolf (2000) extended the idea of national border effects on international trade to sub-national border effects on intra-national trade in the U.S. He demonstrated U.S. state borders impede trade within the country, too. Following his argument, Hillberry and Hummels (2003) took it up although they found home bias one-third as large as Wolf (2000) did. Millimet and Osang (2007) revealed the robustness of sub-national border effects in their article that tested home bias effects on intra-national trade, controlling for unobserved time invariant attributes and reflecting prices, wages, and internal state distance.

Holmes (1998) had a somewhat different point of view. He started a discussion about sub-national border effects as coming up with the effects of policy differences on economic activities. He claimed different policies between two regions partially determine where the manufacturing industry would be located across states in the U.S., as uncovering a large, abrupt increase in manufacturing activity when one crosses a state border from a state without right-to-work law into a state with right-to-work law. Given his evidence, it implies

¹⁴ A number of literatures assume border effects originate from the fact that borders separate jurisdictional distinctions (Holmes, 1998; Urbatsch, 2006).

that sub-national borders in the U.S. do also matter; it is, though, not the same way national borders affect economic performances.

Turning to a more political perspective, Urbatsch (2006) pointed out different characteristics on political engagement between people near borders and people elsewhere. His argument can be interpreted as evidence of sub-national border effects, since he suggested that state borders in the U.S. let borderland people exhibit different preferences over particular politics due to the different escapability, in his terms, of policies.

As previous studies demonstrate, national borders and sub-national borders in a federal state do seem to have some effects on political and economic activities. Nonetheless, there still remain a few questions about what happens if there are no constraints like institutional differences, at the border area. How would people be affected by geographical boundaries beyond circumstances noted in the previous literature? National borders imply a variety of variations, such as cultural and political differences¹⁵ and sub-national borders, as jurisdictional territories in a federal state refer to policy differences. In other words, it also means that border effects in this context are tangled with nationality effects or policy effects rather than pure border effects. Then, the question arises: What are the pure geopolitical border effects? Or, do the pure border effects even exist?

¹⁵ Even if we acknowledge the economic integration due to extensive international trade ignoring border effects, there still are national characteristics. Konrad and Nicol (2008) were skeptical about optimism that economic cooperation leads to social and cultural integration, even between Canada and the U.S.

2.2. Border Effects in a Unitary Nation

Articles on sub-national border effects tend to focus on policy differences and attribute border effects to them as primarily exploring a federal state for their case study.¹⁶ These articles argue that sub-national border effects are caused by strong jurisdictional distinctions. Holmes (1998) promptly assumed the state characteristics unrelated to policy are the same on both sides of the border concerning the location of industry. At state borders, he noted the geographic determinants of the distribution of manufacturing—for example, climate, soil fertility, access to transportation, and the level of agglomeration benefits—are approximately the same. Thus, he straightforwardly insisted the affects of location on industry are a matter of policy. In addition, Urbatsch (2006) repeatedly highlighted the jurisdictional borders with real power. Assuming the jurisdictions have substantial authority to affect citizens' lives, he demonstrated that borders within a nation under unitary government are unlikely to change outcomes.

However, when looking at the regional differences in South Korea, a unitary nation with intense homogeneity, it seems questionable what sub-national borders mean in this country because regionalism has played the most significant role in South Korean elections.

As seen on Figures 2.1 and 2.2, regardless of whether a presidential or parliamentary election, South Korea is undoubtedly divided into east and west sides.¹⁷ Regionally divided

¹⁶ After McCallum's article in 1995, following literature tends to mostly deal again with the U.S. national borders by examining Canada-U.S. and Mexico-U.S. borders. Then, along with these studies, literature focusing on the sub-national border effects has also examined the U.S. states as the unit of analysis.

¹⁷ In general, all South Korean elections seem regionally divided because the major political parties in South Korea are regionally supported. More specifically, however, the presidential election seems to show more regionally-divided results, while the parliamentary election seems to have a little more variation in terms of political parties.

election results often turn into overheated political disputes; this division affects overall political decisions in South Korea.

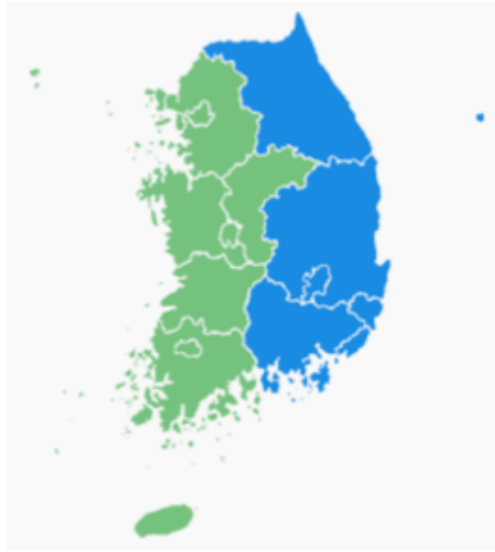


Figure 2.1. Presidential election results in 2002.¹⁸



Figure 2.2. Parliamentary election results in 2004.¹⁹

Dramatic differences in economic development between the east and west of South Korea also show regional differences across the sub-national borders. It appears to be one of the reasons driving the divided political preference. Besides, geographical conditions cover 70 percent of the Korean peninsula with mountains that engender local cultural differences.

Based on these facts, it appears to be worth examining sub-national border effects in South Korea from the perspective that it is a unitary nation having no policy differences

¹⁸ Provinces and cities majority won by Roh, Moo-hyun (left) and Lee, Hoi-chang (right). Roh and Lee were candidates from the two major parties in South Korea, United Democratic Party and Grand National Party, respectively. The figure was exerted from <http://en.wikipedia.org/wiki/South_Korean_presidential_election,_2002>, accessed 05 April 2010.

¹⁹ Provinces and cities majority won by GNP (left), Uri (right). GNP stands for Grand National Party, and Uri represents United Democratic Party. The figure was exerted from <http://en.wikipedia.org/wiki/South_Korean_legislative_election,_2004>, accessed 05 April 2010.

across borders. Not only inspired by Urbatsch's doctoral dissertation revealing the characteristics of people on the borderland, but also articles claiming regionalism in South Korea,²⁰ this paper will concentrate on the different characteristics of people near sub-national borders by comparing with people elsewhere in South Korea.²¹ This analysis might seem specific to Korea's unique characteristics in some senses, but based on these intuitive regional differences in South Korea, more general hypotheses about border effects will be applied to this country to show how sub-national border effects might arise in a unitary nation.

Scenario 1. Border effects on cultural phenomena

Returning to straightforward geographical effects,²² physical distance is the key concept of spatial studies; it appears and actually is the stimulus that naturally brings about the intimacy between neighboring countries.²³ Scholars have proven frequent interactions between physically close countries and have extended these practical aspects to the cultural and political identities.

²⁰ Articles about regionalism in South Korea mostly criticize two distinctive territory-based political supports between the east and the west of South Korea (Park 2003; Kwon 2004).

²¹ Since South Korea is a unitary nation, this will eliminate border effects derived from nationality and policy differences. Also, ethical territories mentioned by John Williams (2006) can be also eliminated: Williams (2006) disagreed with the concept of "borderless world" by pointing out separation as part of a global ethics of toleration, which has always taken a territorial form. Additionally, since data on North Korea is unavailable, this thesis will focus on South Korea.

²² Since most border studies take jurisdictional boundaries into account, as concerning geographical features, it must be noted this thesis will consider more substantive geographical conditions, such as physical distances. As mentioned, this author believes border effects should not be diluted by other institutional consequences.

²³ Pearson (1974, 433) stated we "know" that states are more concerned with and more likely to intervene in neighboring than distant states.

Thelen (1999) highlighted borders as sites of division but also of interaction between individuals from many backgrounds, hybridization, creolization, and negotiation. To a certain extent, although some argued the divide created by international borders has been strengthened and enforced by various citizenship and passport requirements (Lofgren, 1999), scholars in a wide variety of fields have studies linked to dividing borders to dynamic activities induced by trade, commercial flows, and migration (Malkki, 1995).

Indeed, there is substantial literature addressing the significance of physical distance in determining international relations, such as trade and conflict. Two seemingly conflicting arguments have been widespread; many argue that contiguous countries are more conflict prone thus distance deters conflict while similarly many argue that costs of trade rise with geographical distance, thus distance deters trade (Chang et al., 2004). Yet, if this is the case, it is clear that both show there exists a tight relationship between adjacent countries whatever the interaction.

Going further with previous dynamics of interaction near borders, borderland residents might be more favorable to trade, communication, and leave to different provinces than people elsewhere based on gained trust²⁴ with neighbors and their previous experiences, which offers information about foreign regions. At this point, define cosmopolitan²⁵ as a person who is more willing to interact, communicate, and trade with others from foreign areas with a less strong regional identity. Then, it can be expanded as cosmopolitanism in the

²⁴ According to Tam Cho and Nicley (2008), the historic propagation of a unified national territory, perpetuated by constitutionally guaranteed freedom of movement, commerce, and information among U.S. states, lends credence to the expectation of muted effects.

²⁵ Because the idea of cosmopolitan contains various meanings, it could be vague to use this term in an academic paper. However, if it is used in a qualified sense mentioning people who willingly interact with strangers and who are not strongly attached to their own region, it would well describe the characteristics of people who are open-minded to non-nativeness.

borderland. In social theory, Delanty and Rumford (2005) explored the cosmopolitan quality of Europe regarding the EU as the concept of society, which is not a mere economic cooperative union but a multinational community. This suggests that people exposed closely to various borders and different neighbors seem more likely to be cosmopolitan because people are social beings, influenced by those with whom they interact and who reside in geographically-proximate locations (Tam Cho, 2003; Baybeck, 2006; Darmofal, 2006).

Altogether, given theories, their intimacy and interaction on the borderlands come to the integration of divergent trends and cultural diversity. When ethnographers study border people, they do so with the intention of narrating the experiences of people who often are comfortable with the notion they are tied culturally to many other people in neighboring regions. They assume international borders, as well as intrastate borders, as political and cultural boundaries permeable in the everyday lives of border people (Wilson and Donnan, 1998).

Remarkable dynamics near the U.S.-Mexico border make it popular in border identity studies. Political and economic contexts of international borders are featured in analyses of the U.S.-Mexico border, where the issues of underdevelopment, transnationalism and the globalization of power and capital (Alvarez, 1995). Moreover, their interactions have been intriguing in the manner by which they have resulted in new and complex identities, blurring and integrating the characterizations of Mexicans, Latinos, and Americans (Gupta and Ferguson, 1992; Kearney, 1995; Tam Cho and Nicley, 2008). In this regard, it seems the role of localized social relations and geographic proximity establishes how people behave and interact with other regions.

- *Hypothesis 1: People who live in the border region tend to be more cosmopolitan²⁶ than people elsewhere. Since they are not afraid of foreignness, they would be willing to move out to different districts, work outside their region, and marry foreigners.*

Scenario 2. Border effects on political engagement

Political engagement is also a possible way to look at sub-national border effects. When Urbatsch (2006) accounted for intra-national border effects, he confirmed their substantive effects on human behavior proving that political participation, notably electoral turnout, is markedly lower near borders and borderland residents vote in referendums for predictably different policies than their compatriots elsewhere in the realms of tax, regulatory, and social policy. Yet, his argument strongly focused on a federal state in which policy differences are found. When it comes to a unitary nation like South Korea, he suggested there is no reason to expect a unified jurisdiction to exhibit the same outcomes as the same territory would when fragmented into several jurisdictions.

Although the map (Figures 2.1 and 2.2) indicates an extreme difference in political party preference at the regional district level between the west coast and the east coast of South Korea, based on Urbatsch's idea, it is a moot point if there would be any difference in terms of political engagement ignoring political preferences. At the same time, since the data for 2007 presidential election and 2008 parliamentary election turnouts show there exists a few tendencies, such as people who live in a certain province participate more in elections, people who live in a city participate less in voting than people elsewhere. Thus, it can be assumed that geographical location has something to do with political participation.

²⁶ Although cosmopolitan has a variety of meanings, in this paper, it refers to a person who disapproves of traditional geopolitical divisions.

In a country like South Korea, political participation seems likely to be involved with how strongly people feel about political competition. For instance, if the electorate in a certain constituency could anticipate which candidate might be elected, they would not necessarily participate in voting; however, if the competition between the candidates is intense and people cannot predict who might win an election, voting participation will cause higher turnouts.

In this sense, this paper would apply bilateral identity near borders—regarding cultural identity—to political participation.²⁷ Since South Korean politics has a strong competition, based on regional-oriented political parties, each province's electorate tends to vote for its preferred political party to win over the competition. However, people near sub-national borders would not be interested in national elections as much as people elsewhere because of their weak partisanship.

- *Hypothesis 2: In a unitary nation with no escapability of policies, people who live near the sub-national borders are not expected to have the same voting behavior as people who live in a federal state. However, borderlanders²⁸ would be still expected to engage less in political participation than people elsewhere because the competition for the election will be weak near borders, due to border influences.*

²⁷ Political participation, used in the same way as political engagement in this context, here means the political involvement by means of voting for political elections. Although there would be other ways to participate in politics such as donations, for data availability and simplicity, this paper considers political engagement only via voting behavior.

²⁸ “Borderlander” is used as a simple way referring to people in borderlands.

Scenario 3. Border effects on economic performance

In terms of economic perspective, the theories on borderland are conflicting. It seems to have a tight connection to theories about the relationship between the state and its regions, which often takes a top-down view where all power flows from the ‘center’ to the ‘periphery.’ Since the border zone is distant from the center area, according to the theory of Alesina and Spolaore (1997), which encompasses the main place and a higher income rate, the border region seems relatively unproductive compared to the central place.²⁹ Yet, on the other hand, it has been also argued that the border region tends to trade with different regions more than do places away from borders, due to transportation costs.³⁰ In the sense transportation costs determine the volume of trade within and between countries,³¹ Rauch’s (1991) model suggests port cities attract economic activities because they have low access costs to foreign markets; furthermore, since trade does not only take place via ports, but goods are also directly transported across borders from land-to-land, border regions could also have a geographic advantage in attracting firms, due to their proximity to foreign markets (Niebuhr and Stiller, 2004). Thus, against center-periphery theories, it can be assumed that border regions are more likely to thrive by lively trade and trades, and as a result generate economic growth in borderlands.

Furthermore, since manufacturing businesses tend to spend more for transportation costs than other industries, they will rather locate around borders, where it is not only close to

²⁹ Supposing borders are impermeable within a closed economy, Losch (1944) described a border region as a desert because they would have only little economic activities and would have only firms requiring a small market area regarding borders as distortions.

³⁰ The region’s geographic position is important regarding regional adjustments to trade, since location is decisive for access costs to foreign markets (Niebuhr and Stiller, 2004).

³¹ By integrating theories of location and international trade, Ohlin (1967) concludes that altogether essential results on international trade can be applied to interregional trade relations as well.

their district, but closer to different districts, because the borderland has a productive environment with lively trade. Considering the advantages of border regions as major transportation points, manufacturing activities requiring constant use of transportation will be located along the borders.

- *Hypothesis 3a: In borderlands, there will be more trade than the center area. A brisk trade will consequently generate economically-productive activities. Thus, people near borders are more likely to join economic activities than people elsewhere, and, as a consequence, economic growth near borders will be higher than elsewhere.*
- *Hypothesis 3b: Compared to other industries, manufacturing business will be more popular in border regions than in non-border regions because of their regional advantage of transportation.*

The theories described above suggest there may be some sub-national border effects in a unitary nation like South Korea, but that these would be different from the ones expected in a federal state. Hence, this thesis will test sub-national border effects within South Korea by different means of analyses.

CHAPTER 3. RESEARCH DESIGN AND METHODOLOGY

3.1. Case Explanation

Case selection: Pure border effects in South Korea

As mentioned in Chapter 2, there are several reasons that make South Korea as an eligible country to find pure border effects beyond its regional differences at the first glance. First and foremost, South Korea is a unitary nation based on one national law system determined by the *Constitution of the Republic of Korea*.³² Although it has local governments at each province and special, metropolitan city level, they are semi-autonomous. Their autonomy does not extend to the judicial sector, as local governments have very limited policy-making authority, which is trivial compared to that found in a federal state. Therefore, no one has a chance to escape from certain policies, such as moving to other provinces or cities in South Korea. This fact thus eliminates previously found sub-national border effects relating to policy differences between two regions.

Secondly, South Korea is a homogeneous society with an absolute majority of the population of Korean ethnicity. As distinguished from neighboring populations of mainland Asia and Japan in terms of ethnicity, culture, and language, Korean people are known as one of the world's most homogeneous ethnicities. This homogeneity of South Korea suggests ethnic conflicts or ethnically troubled areas, which can severely affect people with territorial issues, are unexpected in the South Korean Peninsula.

³² The Constitution of the Republic of Korea was promulgated on July 17, 1948, at the time Korea was split into South Korea and North Korea, when both inaugurated their own governments. Therefore, South Korea has been a unitary nation since its establishment.

Third, the geographical conditions of South Korea seem intuitively appropriate for examining sub-national border effects in that it is a relatively small peninsula surrounded by water on three sides. To the extent this thesis takes physically contiguous borders into account and South Korea does not have any contiguous international borders, this country may not be an implicational case when exploring national border effects.³³ However, regarding borders within a nation, its geographical conditions seem to highlight sub-national border effects, as eliminating the effects fostered by international borders. In addition, the fact that South Korea has relatively constant ecological conditions across the country, due to its size, controls the likelihood of regional exotic differences. Its territory covers a total area of 100,032 km^2 , smaller than most of the states in the United States. In this respect, it seems reasonable to assume that inherent geographical environments would not affect a way people behave.

Administrative divisions of South Korea

For the inspection of border effects within South Korea, the administrative divisions,³⁴ which geographically and politically create sub-national boundaries in the nation, should be examined first by pointing out the provincial boundaries that will be mainly considered in this thesis.

³³ While South Korea is surrounded on three sides by the oceans, it shares a northern border with North Korea, which is an international boundary. But, this border is different from other international borders in that it hardly allows interaction between the two Koreas; it seems more like an impermeable hindrance. There is even a demilitarized zone around the South-North Korean border, which blocks any source of connection between them.

³⁴ It also means jurisdictions in South Korea, but as noted, since it functions more as an administrative district due to weak jurisdictional power of sub-national borders in this country. This study uses the term that explicitly shows its role.

South Korea consists of eight provinces called *Do*, one special autonomous province called *Jachido*, six metropolitan cities called *Gwangyeoksi*, and one special city called *Teukbyeolsi*, as shown in Table 3.1. These 16 districts are usually considered as primary administrative divisions that have a local government at the provincial level. At the municipal level, these 16 districts are subdivided into several types of districts, *Gu*, *Gun*, and *Si*, according to their industrial development and population density.

Table 3.1. Administrative divisions of South Korea.

| Provincial level | | Municipal level | Sub-municipal level | | | |
|---|---|----------------------|---------------------|-------------------|-------------|------------|
| Special City <i>Teukbyeolsi</i> | <i>Seoul</i> | Ward <i>Gu</i> | | <i>Dong</i> | <i>Tong</i> | |
| Metropolitan City <i>Gwangyeoksi</i> | <i>Incheon, Busan, Daegu, Gwangju, Daejeon, Ulsan</i> | Ward <i>Gu</i> | | <i>Eup</i> | | |
| | | County <i>Gun</i> | | <i>Myeon</i> | <i>Li</i> | <i>Ban</i> |
| Province <i>Do</i> | <i>Gyeonggi, Gangwon, North and South Chungcheong, North and South Jeolla, North and South Gyeongsang</i> | City <i>Si</i> | <i>Gu</i> | <i>Eup /Myeon</i> | | |
| | | | | <i>Dong</i> | | |
| Special Province <i>Jachido</i> | <i>Jeju-island</i> | City <i>Si</i> | | <i>Dong</i> | <i>Tong</i> | |

Table 3.1 clearly shows how South Korea has been divided into sub-level administrative divisions. When discussing sub-national boundaries in this country, Table 3.1 suggests it would be reasonable to consider the provincial level of districts as primary administrative divisions in this study³⁵ because their sub-units, shaded in Table 3.1, are appropriate in terms of their comparability and size. Besides, the sub-municipal level of

³⁵ Historically, these provinces have been considered as primary districts since the 11th century.

districts varies across provinces; some are too small or too underpopulated to obtain sufficient data.

Given the provincial level, however, there are still a few factors that should be taken into account in the context of South Korea's peculiarities. First, it should be noted that three provinces—*Chungcheong-do*, *Jeolla-do*, and *Gyeongsang-do*—could be considered as a single province. As seen in Table 3.1, these provinces are administratively composed of north and south sides. Nevertheless, as explicitly seen in the names of places, both north and south sides of these provinces share more historical and cultural inheritances than other provinces.³⁶ Also, even though each has a local government, the most they can do is to decide how national policies will be implemented and national policies tend to regard both parts simultaneously.

Second, metropolitan cities must be differentiated from the special city, Seoul, as well as other provinces. Although some cities have been raised to the status of metropolitan city because of their high population and economic growth, they are not comparable to the capital city and other provinces. Rather, metropolitan cities are observed as major cities, which are included in a certain province. Like the south and north sides of *Chungcheong*, *Jeolla*, and *Gyeongsang* provinces, metropolitan cities share the historical and cultural inheritances with the province they are located. Hence, these cities will be considered as other municipalities in a province at their sub-level of *Gu*.

³⁶ For instance, when it comes to dialects, both sides of *Chungcheong*, *Jeolla*, and *Gyeongsang* provinces share the local language; this tendency is the same with food, political party preference, and so on. Since border comes to be significant in terms of political and cultural perspective in this paper, the borders cutting north and south sides of these provinces do not have meaningful implications.

Therefore, this paper will mainly take seven provinces and 234 municipalities in these provinces. Regardless of their titles such as *Gu*, *Gun*, and *Si*, municipalities, highlighted in grey in Table 3.1, will be treated equally.

The sub-national borders concerned in this paper are shown in Figure 3.1.

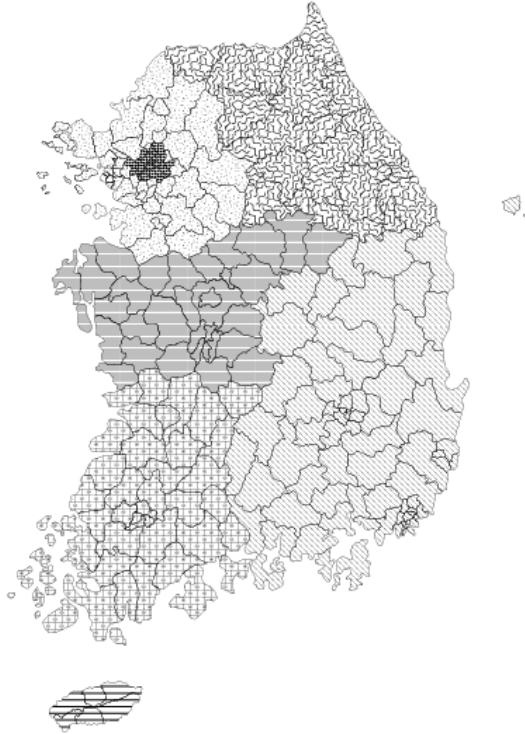


Figure 3.1. Provincial level districts of South Korea.³⁷

³⁷ Seven provinces on the map are the provincial level districts on Table 3.1. Thus, the boundaries of these seven provinces are the sub-national borders throughout this paper.

3.2. Data and Methods

Data

Data for this thesis mainly come from *Statistics Korea* (KOSTAT),³⁸ the Bureau of Statistics of South Korea. Since 1948, as a government-affiliated organization, KOSTAT has been projecting national statistical duties, setting statistical standardization, and taking charge of various kinds of statistical tasks. Since they have stored a wide variety of data with running national-wide research for decades at various levels, it is an efficient way to choose some of their aggregated data for my theories.

Hypotheses presented in this thesis mention individual behavior. In this case, a person near borders would be more likely to move to a different province than a person elsewhere. So, it seems sensible to use the disaggregated level of data usually gathered by surveys. However, KOSTAT's aggregated data at the municipality level will be used as the unit of analysis. Although the use of aggregated data to explain individual behavior can result in an ecological inference fallacy misleading some of the individuals, this will be largely compensate by offering a more complete dataset.

Regarding provincial boundaries, the municipal level administrative divisions, grey colored boxes shown in Table 3.1, will be the unit of analysis in this project. As noted above, the appropriate sub-national borders for the purpose of this thesis are the lines dividing provinces including Seoul, the capital city.

³⁸ The Korea National Statistical Office (KNSO) was renamed as Statistics Korea (KOSTAT) on July 6, 2009.

Methods

The explanatory variable through four hypotheses in this thesis is the proximity to a border which seems like a simple, but problematic concept. Although there are some ways to mathematically calculate physical distance concerning its effects in economic theories, here, it would not make sense to link numerical distance with human behavior. Rather, since this study takes a municipality as a unit of analysis, each municipality will be defined if it is near borders or not. For instance, if the boundary of a certain municipality formulates a part of primary sub-national borders in South Korea, that municipality will be considered as a border region.

The concept of borderland, the central idea of this project and the fact that this paper regards borders as the cutting lines of contiguous land, raises the question about coastal areas. Although this paper concerns borders defining geographical boundaries based on contiguous land, since coastal locales are also places where legal jurisdiction and political entity ends, coastal locations should not be taken as other places.³⁹ Thus, coastal location is also included as an independent variable. In addition, the municipalities adjoining North Korea are coded as another independent variable. Although the border between the two Koreas is not a sub-national border, it is an end point of jurisdiction, similar to the coastal line. Separating the main border regions, therefore, will explain the effects of the border between North and South Korea.

In accordance with each hypothesis, as the dependent variables apply to tests justified through theories, the control variables, which substantially increase an explanation of

³⁹ Coasts offer edges, which are one of the characteristics of borders, but without borders (Urbatsch 2006, 17).

ordinary least-squares (OLS) regression analysis, must be reviewed. First and foremost, urban characteristics, such as population and population density, must be controlled in a country, especially like South Korea, in that it is a regionally-biased country—the population is unevenly distributed, economic growth is different between districts, and the administration is concentrated in a certain area. By controlling population and population density, this study could explain how borders affect human behaviors without regard to population context. Additionally, the same logic suggests that the capital and metropolitan cities in this country should be controlled by reason of their urban-bias.

Islands surrounded by oceans on all sides are controlled, due to the same reason of having coastal location as an independent variable,⁴⁰ and to investigate regional characteristics,⁴¹ each province has a dummy variable named “Province Fixed Effects.”

The following is a list of the variables used, their corresponding meaning, and how they were coded:

Explanatory Variables

“Internal border” – Refers to the municipality which boundary to a certain extent forms primary sub-national borders. These places, coded as 1 and 0 otherwise, are the borderlands in this context.⁴²

⁴⁰ Also, islands in South Korea would be likely to have the opposite characteristics as urban ones because of their isolation from the main peninsula.

⁴¹ As noted above, South Korea is well known for its homogeneity. At the same time, it is the fact there is regionally uneven economic development in South Korea. Moreover, political party preferences between provinces are clearly divided.

⁴² The border between South and North Korea is not considered as a meaningful boundary in this thesis because it may entirely shut down movement (Urbatsch, 2006). Unless it is adjacent to the sub-

“*Coast*” – Refers to the municipality with boundary adjoining an ocean. These places, coded as 1 and 0 otherwise, are the coastal locations in this context. Islands are also classified as “*Coast*” since they adjoin an ocean, too.

“*Internal border*coast*” – Refers to the municipality that is borderland as well as coastal locations. These places are coded as the value of multiplication of “*Internal Border*” and “*Coast*” variables. Although this sort of region is rare, it should be counted, since they could have varying regional characteristics, due to their regional uniqueness.

“*Northern border*” – Refers to the municipality, which boundary to a certain extent forms the border between North and South Korea. Simply, in a sense that the border between the two Koreas offers the edge of South Korea, it should be concerned as an independent variables despite the fact there are only eight municipalities coded as 1 for “*NB*” variable and they are not expected to have significant effects.⁴³

Control Variables

“*ln(pop)*” – Refers to the national log of population. Since the raw numbers of population do not follow the normal distribution, logged population is used due to its inclination of standard normal distribution.

“*ln(p-density)*” – Refers to the national log of population density. The same problem occurs here as “*Population*” variable, so logged population density is used as well.

“*City*” – Refers to a municipality that is in either capital or metropolitan city. These places, coded as 1 and 0 otherwise, are urban areas in this context. Although this study controls population and population density, dominant characteristics of city areas, capital and

national borders discussed in this thesis, the municipality is not counted as “*Internal border*” even though it is attached to North Korea.

⁴³ To be specific, it would be reasonable to consider “*Internal border*”*“*Northern border*,” “*Coast*”*“*Northern border*,” and “*Internal border*”*“*Coast*”*“*Northern border*.” However, since there are very small numbers of municipalities for all three combinations and they are not regarded as important features in theories, this thesis excludes them as an independent variable.

metropolitan cities are likely to have exclusive features such as economic growth, education system, and so on, which make better sense when controlled.⁴⁴

“Island” – Refers to the municipality isolated from the Korean peninsula. These places, coded as 1 and 0 otherwise, are islands in this context.

“PFE” – Refers to the “Province fixed effects.” Among seven provinces considered in this study, *Seoul*, *Gyeonggi*, *Gangwon*, *Chungcheong*, *Jeolla*, *Gyeongsang*, and *Jeju*, six provinces, except *Seoul*, are used as the “PFE” variable, taking *Seoul* as a baseline. Thus, six dummy variables are included in “Province fixed effects.”

Dependent Variables⁴⁵

Hypothesis 1

“Out/pop” – Refers to the total number of people who move out to another province divided by the total population in a certain municipality.

“Out/moving” – Refers to the total number of people who move out to another province divided by the total number of people who move out either to another province or within the same province in a certain municipality.⁴⁶

“Commute” – Refers to the total number of people who commute to other provinces divided by the total population in a certain municipality.

“Intl.marriage” – Refers to the total number of international marriages divided by the total number of marriages in a certain municipality.

⁴⁴ *“ln(pop),” “ln(p-density),”* and *“City”* variables seem to be highly associated with each other. Thus, their correlations will be examined below.

⁴⁵ Except for voter turnout of presidential and parliamentary election, all of predicted variables are the dataset of 2005. Also, all variables are the normalized numbers in order to obtain decent comparisons.

⁴⁶ Compared to *“Out/pop”* variable, this variable shows more specified proportion of people who are willing to move out to foreign provinces from the total moving-out numbers.

Hypothesis 2

“President” – Refers to the voter turnout of the Presidential election in 2007.

“Parliament” – Refers to the voter turnout of the Parliamentary election in 2008.

“Pres-parl” – Refers to the values of *“President”* - *“Parliament”* for backing the previous two turnout variables.

Hypothesis 3a

“Employed” – Refers to the total number of people employed divided by the total population in a certain municipality.

“Jobs” – Refers to the total number of jobs in a certain municipality.

“LV.residence” – Refers to the residential land value changes in a certain municipality.

“LV.business” – Refers to the business land value changes in a certain municipality.

Hypothesis 3b

“Manufacturing” – Refers to the proportion of manufacturing industries in a certain municipality.

“Cultivation” – Refers to the proportion of land used for agriculture in a certain municipality.

The aforementioned variables will be used to in accord with relating the hypotheses.

For such a task, SPSS 15.0 is used.

CHAPTER 4. DATA ANALYSIS AND RESULTS

Given dependent, independent, and control variables, this chapter presents the data analyses and the results of this study. As noted above, the research questions compose three parts—cultural, political, and economic perspectives—with four hypotheses that will be mostly explained by regression tests. Before the regression analyses are discussed, basic information about the data is described in regard with independent and control variables, which are consistent throughout all hypotheses.

Since Chapter 3 has described each variable and what its purposes, here the explanatory variables are illustrated on the maps to obtain a clear idea regarding the geographical viewpoint.⁴⁷ Figures 4.1, 4.2, and 4.3 specify the internal border regions, coastal regions, and internal border•coastal regions versus non-border regions, which, as independent variables, mainly explain cultural, political, and economic human behaviors throughout this study. The phenomena that seem to distinguishably happen in the internal border regions, as shown on Figure 4.1, are mainly explained in comparison with the tendency of non-border locales. The characteristics of coastal areas on Figure 4.2 are additional findings. As previously noted, there are a few regions that are borderlands⁴⁸ as well as coastal locations. These are the nine municipalities shaded on Figure 4.3.

⁴⁷ As mentioned in Chapter 3, “*Northern border*” indicating municipalities adjoining North Korea is added to continue the consistency of selecting independent variables in theories; “*Northern border*” is included in explanatory variable set only because it offers the edge of the country as coastal areas do. However, it is not expected to have significant ramifications in terms of all four hypotheses. Moreover, since it is very clear the “*Northern border*” variable implies those municipalities adjoining the northern border of South Korea, here the three main independent variables, “*Internal border*,” “*Coast*,” and “*Internal border*coast*,” are presented on the maps as simple and straightforward.

⁴⁸ Since “borders” refer to the sub-national borders in this study, “borderlands” mention the places adjoining sub-national boundaries seen on Figure 4.1. Then, “borderlanders” describe the people who live in borderlands in this context.

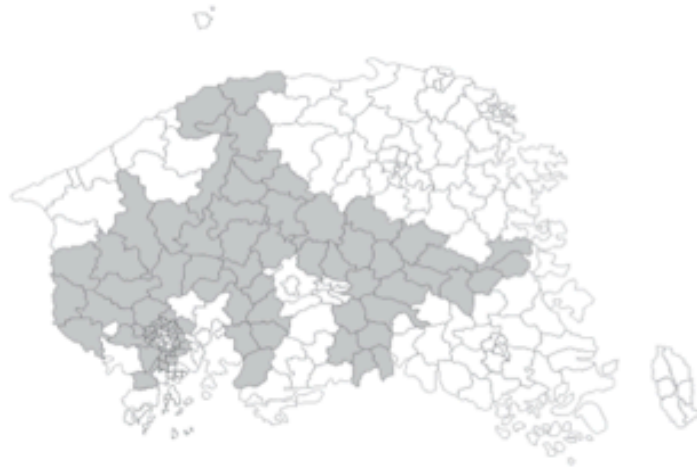


Figure 4.1. Internal border region: “*Internal border*” variable on the map.



Figure 4.2. Coastal location: “*Coast*” variable on the map.



Figure 4.3. Internal border-coastal region: “*Internal border-coast*” variable on the map.

Despite the small number of cases, since maps are expected to display some hybrid characteristics of both border and coastal locales in theories, it may be worth including them as an independent variable.⁴⁹

Another initial investigation before regression analyses would be to look at the correlations between the control variables in Table 4.1.⁵⁰ Since the dummy variables referring to “Province fixed effects” are not overlapped between themselves presenting individual regions, their correlation values seem meaningless and are not listed below. Rather, the correlations of population, population density, and city variable must be closely examined.

Table 4.1. Summary of correlations of control variables.

| | ln(pop) | ln(p-density) | City | Island | Gyeonggi | Gangwon | Chung-cheong | Jeolla | Gyeong-sang | Jeju |
|---------------|---------|---------------|--------|---------|----------|---------|--------------|---------|-------------|--------|
| ln(pop) | 1 | .795** | .455** | -.201** | .234** | -.227** | -.154* | -.274** | -.202** | -.024 |
| ln(p-density) | .795** | 1 | .746** | -.170** | .122 | -.282** | -.206** | -.311** | -.315** | -.092 |
| City | .455** | .746** | 1 | -.075 | -.266** | -.196** | -.251** | -.290** | -.323** | -.090 |
| Island | -.201** | -.170** | -.075 | 1 | -.091 | -.067 | -.086 | .062 | .040 | .567** |

Note: For OLS regression analyses, since natural log of population and natural log of population density are used, the correlation test also uses the logged value of population and population density. All samples have observed values without missing data, so N=234.

* Correlation is significant at the .05 level (2-tailed).

** Correlation is significant at the .01 level (2-tailed).

⁴⁹ Although there are few theories about internal border•coastal areas—only theories about either borderlands or coasts, since the regions are grouped with internal border regions and coast areas, both coded as 1, “*Internal border*” multiplied by “*Coast*” would be worth including in the regression models.

⁵⁰ The correlations of other variables are tested, as well. And, it turns out the correlations between independent variables and control variables are not statistically significant. In particular, the correlations between independent variables and urban characteristics variables, such as population, population density, and city, present no statistically significant relationship between them. Hence, they are not tabled.

Not surprisingly, Table 4.1 shows population, population density, and city variables are strongly associated demonstrating urban characteristics. Among these three variables, the values imply the strongest relationship between population and population density; the municipality with large population tends to have high population density. When it comes to city area, however, its associations with population and population density are somewhat varied. Although both have a statistically significant, positive relationship, the correlation between city and (natural log of) population density is .746, which is higher than .455, the correlation of city and population. In other words, city correlates strongly with population density, while it does less with the population *per se*. Thus, when analyzing the ordinary linear-squares (OLS) regressions below, note that large population does not necessarily mean large city area;⁵¹ rather, high population density is more likely to interpret city characteristics compared to the raw number of population. For province variables indicating regional characteristics because they do not include city areas, they have somewhat negative relationships with urban characteristics.⁵²

4.1. Border Effects on Cultural Phenomena

Although because of either border residents' characteristics or geographical proximity to foreign areas, frequent interactions across borders are obviously expected around

⁵¹ It means there is a municipality with large population, but its population is not densely distributed. For example, *Cheongju-si* is the municipality that has the eighth largest population, but has average population density in South Korea; it is not included as a city, either. In most cases, population and population density exhibit a similar pattern, but the coefficients for both sometimes have conflicting directions.

⁵² After all, their correlations appear not as strong as ones between population, population density, and city variable.

boundaries, and the number of migrants in borderlands would shape the cultural phenomena in those areas. Not only moving populations, but also commuting numbers across intra-national borders, for their work can also indicate the attribute of people in borderlands assumed as cosmopolitan, who are more favorable to non-native regions. Furthermore, international marriages, not common yet in South Korea because of its homogeneous cultural history, can convey the idea of how open-minded to foreigners and foreign culture border residents would be.⁵³

Table 4.2 moderately indicates people near borders appear to be cosmopolitan because they are more likely to move to different provinces, work outside of their region, and marry foreigners compared to people elsewhere. Although it only includes independent variables, the regressions do not profoundly explain the phenomena. This suggests cosmopolitan characteristics are consistent throughout four dependent variables with statistically significant coefficients for border regions.

First, the borderland coefficients for out-migration, 1.154 for out-migrants over total population (Out/pop) and 6.900 for out-migrants over total moving-outs (Out/moving), show border residents are more willing to move from their province than people in non-border regions; while, people in coastal locations seem unlikely to move to foreign provinces compared to people elsewhere. Internal border•coastal areas exhibit puzzling coefficients, the one for out-migration divided by the population has a negative value, whereas the other one for out-migration divided by moving numbers has a positive value.

⁵³ Again, in this thesis, the meaning of cosmopolitan is limited as people who do not mind dealing with foreignness.

Table 4.2. OLS Regression results for cultural phenomena data.

| Dependent Variable | Out/pop | Out/moving | Commute | Intl.marriage ⁵⁴ |
|-----------------------|---------|------------|---------|-----------------------------|
| Independent Variables | | | | |
| Internal border | | | | |
| b | 1.154** | 6.900** | 1.554* | 1.396** |
| (SE) | (0.381) | (2.352) | (0.745) | (0.533) |
| Coast | | | | |
| b | -0.265 | -2.470 | -1.761* | -0.444 |
| (SE) | (0.430) | (2.652) | (0.760) | (0.542) |
| Internal border*coast | | | | |
| b | -0.374 | 2.540 | -0.135 | -1.655 |
| (SE) | (0.696) | (4.294) | (1.819) | (1.298) |
| Northern border | | | | |
| b | 1.181* | 4.752* | -0.759 | 1.135 |
| (SE) | (0.793) | (2.893) | (1.684) | (1.201) |
| Constant | | | | |
| b | 5.979** | 34.693** | 3.553** | 7.657** |
| (SE) | (0.321) | (1.978) | (0.512) | (0.365) |
| R ² | 0.104 | 0.058 | 0.072 | 0.057 |

Note: Throughout the tables, standard errors are presented in parentheses, and standardized coefficients (B) are given together with regression coefficients. The levels of statistical significance are denoted as follows, unless indicated otherwise. OLS = ordinary least squares. N=234.

+ $p < .10$, * $p < .05$, ** $p < .01$

To the extent that both have conflicting values, internal border•coastal areas would be neither border-like nor coastal-like. Since most coefficients, however, for coastal and internal border•coastal areas in this regression are not statistically significant, it would be difficult to interpret their characteristics with only these numbers. In addition, with respect to the northern border variable, it seems people near North Korea have a cosmopolitan characteristic. However, the following regressions adding control variables show no robust results; a detailed interpretation seems unnecessary.

With only three explanatory variables, commuting and international marriage are also well explained by borderness. Their coefficients suggest people in the border regions are

⁵⁴ Since there are U.S. military bases in South Korea, the U.S. military dummy variable was added to the running regressions about international marriage numbers. However, this was determined to not have any statistically significant coefficient and provides meaningless results. Therefore, the regression results without U.S. military dummy variable are tabled above. Also, the tendency that males in rural areas marry foreigners from developing countries will be explained by control variables, such as population and population density.

more willing to work outside of their province⁵⁵ and to marry foreigners. Residents in coastal areas also show similar characteristics as seen with the out-migration variables; they interact less with foreignness. Yet, internal border•coastal regions have negative coefficients corresponding to coastal characteristics, as opposed to the out-migration regression results; they are not statistically significant numbers, though. In respect to constant patterns in each region for the four dependent variables, Table 4.2 generates positive findings for cosmopolitanism in the border regions. However, these interpretations should be more clearly confirmed by additional ordinary least-squares (OLS) regression tests including control variables because the explanation power of independent variables are relatively weak.⁵⁶

The cosmopolitan characteristics proved by four dependent variables are better supported by the OLS regression tests with control variables. Since urban characteristics are expected to strongly affect cultural human behaviors, OLS 1 includes population, population density, city, and island variable;⁵⁷ OLS 2 considers all control variables. With two more tests for each dependent variable, Table 4.3 indicates the findings from Table 4.2 are fairly robust except for the northern border variable, which lost statistical significance.

⁵⁵ As noted, even though borderlanders do not mind working outside their region because of the convenience of physical proximity, this sort of their life style is not meaningless but important in that it could possibly affect their cultural identities.

⁵⁶ The OLS regressions with three independent variables retain significance. However, r-square of the regressions advises further robustness checks.

⁵⁷ Indeed, Table 4.3 presents that the estimated coefficients for population, which better explain the cosmopolitanism; their values are higher than coefficients for border regions except for commuting numbers. Instead, population density and city variables relatively well explain cosmopolitanism with commuting numbers. Also, *Gyeonggi*, which is the province adjoining *Seoul*, explains much about cosmopolitan characteristics with its coefficient of 6.900 on commuting.

Table 4.3. OLS Regression results for cultural phenomena for various models.

| | OLS Models | | | | | | | |
|-----------------------|------------|----------|------------|-----------|----------|---------|---------------|----------|
| | Out/pop | | Out/moving | | Commute | | Intl.marriage | |
| | (1) | (2) | (1) | (2) | (1) | (2) | (1) | (2) |
| Internal Border | | | | | | | | |
| b | 1.427** | 1.405** | 6.843** | 6.801** | 1.428* | 0.872+ | 1.449** | 1.457** |
| (SE) | (0.354) | (0.341) | (1.751) | (1.585) | (0.634) | (0.583) | (0.479) | (0.464) |
| Coast | | | | | | | | |
| b | -0.323 | -0.602 | 0.056 | -1.162+ | -1.273+ | -0.994+ | -0.496 | -0.662 |
| (SE) | (0.410) | (0.400) | (2.026) | (1.930) | (0.675) | (0.612) | (0.509) | (0.487) |
| Internal border*coast | | | | | | | | |
| b | -0.314 | -0.049 | -0.865 | 0.313 | -0.339 | -0.074 | -1.769 | -1.800 |
| (SE) | (0.638) | (0.617) | (3.156) | (2.975) | (1.545) | (1.381) | (1.165) | (1.098) |
| Northern border | | | | | | | | |
| b | 0.515+ | 1.080 | -0.719 | 5.405 | 1.963 | 0.069 | -0.453 | 0.961 |
| (SE) | (0.628) | (0.671) | (3.602) | (3.714) | (1.445) | (1.419) | (1.088) | (1.128) |
| ln(pop) | | | | | | | | |
| b | -1.344** | -1.207** | -7.122** | -6.135** | 0.077 | -0.067 | -1.788** | -1.698** |
| (SE) | (0.230) | (0.224) | (1.136) | (1.080) | (0.441) | (0.399) | (0.332) | (0.318) |
| ln(p-density) | | | | | | | | |
| b | 0.285+ | 0.325* | -1.210+ | -0.711 | 1.686** | 0.977** | 0.131 | -0.056 |
| (SE) | (0.147) | (0.152) | (0.726) | (0.731) | (0.279) | 0.265 | (0.212) | (0.212) |
| City | | | | | | | | |
| b | -0.530 | | -0.902 | | -3.953** | | -0.112 | |
| (SE) | (0.450) | | (2.224) | | (0.890) | | (0.679) | |
| Island | | | | | | | | |
| b | -0.390 | -0.369 | -2.203 | 3.430 | 0.424 | 0.238 | -1.809+ | -1.963+ |
| (SE) | (0.650) | (0.752) | (3.217) | (3.622) | (1.267) | (1.361) | (0.955) | (1.082) |
| Gyeonggi | | | | | | | | |
| b | | -0.139 | | -2.858* | | 6.900** | | 0.290 |
| (SE) | | (0.472) | | (2.275) | | (0.881) | | (0.710) |
| Gangwon | | | | | | | | |
| b | | 0.501 | | -0.286 | | -0.144 | | -3.402** |
| (SE) | | (0.715) | | (3.445) | | (1.296) | | (1.034) |
| Chungcheong | | | | | | | | |
| b | | 1.411 | | 4.391+ | | 0.046 | | -0.535 |
| (SE) | | (0.580) | | (2.794) | | (1.066) | | (0.850) |
| Jeolla | | | | | | | | |
| b | | 1.896** | | 4.149+ | | 0.406 | | 1.222 |
| (SE) | | (0.590) | | (2.844) | | (1.057) | | (0.845) |
| Gyeongsang | | | | | | | | |
| b | | 0.078 | | 2.699 | | 0.401 | | -1.258 |
| (SE) | | (0.562) | | (2.710) | | (1.017) | | (0.813) |
| Jeju | | | | | | | | |
| b | | -0.642 | | -13.238* | | -0.223 | | -0.674 |
| (SE) | | (1.261) | | (6.077) | | (2.304) | | (1.833) |
| Constant | | | | | | | | |
| b | 20.029** | 17.504** | 127.557** | 110.106** | -7.115+ | -3.016 | 27.999** | 28.458** |
| (SE) | (2.068) | (2.061) | (10.229) | (9.930) | (4.076) | (3.791) | (3.075) | (3.021) |
| R ² | 0.292 | 0.363 | 0.521 | 0.591 | 0.358 | 0.504 | 0.272 | 0.374 |
| Adj. R ² | 0.267 | 0.325 | 0.504 | 0.567 | 0.335 | 0.475 | 0.246 | 0.337 |

Note: OLS 1 and 2 do not have any other additional controls besides the variables on the table; all coefficients from the regression tests are reported. Using all control variables, *City* variable has been excluded because it has repeated information with “Province fixed effects” dummy variables. N=234.

+ $p < .10$, * $p < .05$, ** $p < .01$

All dependent variables used for representing cosmopolitan characteristics have estimated coefficients for border region statistically significant at $p < .10$ level, and their standard errors shrink from Table 4.2. It straightforwardly demonstrates that people near

borders do have an open-minded approach to non-native regions and people; moreover, they are assumed not to remain in their own region. Although this could be somewhat caused by a simple, short distance advantage from foreign provinces, their interactive relationship with others appears clearly.

Conversely, people in coastal locations show non-cosmopolitan attributes. For the four variables, coastal regions have negative coefficients inferring people who live in coasts are unlikely to mix with foreignness. Although the coefficients for international marriage are not explanatory, they do not seem meaningless because they correspond to the patterns of the other variables indicating non-cosmopolitanism in coasts. With this same logic, it may indicate that border offers a better chance to have exchanges with people from elsewhere.

For internal border•coastal regions, there is little to interpret as a result of no statistical significance. This means their regional conditions do not explain much about the cosmopolitanism of internal border•coastal residents. Yet, the pattern shown in Table 4.2 that was puzzling—positive for out-migrants over moving-outs, but negative for out-migrants over total population, commute, and international marriage—has not been changed. Thus, it can be assumed that, for cultural matters, neither border nor coastal inclined characteristics appear in internal border•coastal regions; the two characteristics cancel out each other; otherwise, it depends upon the issue.

To sum up, cultural phenomena near borders are relatively clear; it may seem banal, though. It does confirm that border residents tend to be more cosmopolitan—they would have more reasons to be cosmopolitan—in comparison with people elsewhere. One interesting finding is that even though openness to different countries leading to international marriage seems to be the least expectation for borderlanders, it turns out to be statistically the

most significant. Whether or not controlling the population density,⁵⁸ it remains surprisingly stable.

4.2. Border Effects on Political Engagement

In South Korea, political party preferences are typically strongly attached to regional separation along the primary sub-national borders. Historically, this territory-based political cleavage first emerged in the early 1970s (Park, 2003) between the two largest provinces, such as *Jeolla-do* and *Gyeongsang-do*,⁵⁹ which are in the eastern and western parts of South Korea, and has stretched to the other provinces over political elections.⁶⁰ Therefore, regional party preference comes to be a key player in elections in South Korea. Political participation, however, is a different matter, and as stated, it is expected to better explain how people differently behave in terms of borderiness.

⁵⁸ As noted, on account of female underpopulation, men in rural areas are encouraged to marry foreigners at times; therefore, by controlling urban characteristics, OLS regression wipes off this contemporary tendency. The coefficient for (natural log of) population in terms of international marriage on OLS 2, which is -1.769, explains it is controlling the tendency for people in a municipality with a large population to less likely marry foreigners.

⁵⁹ Through military governments in 1970-80's, South Korea has had presidents from *Gyeongsang-do*, but not from *Jeolla-do*, which resulted in dramatic economic development in *Gyeongsang-do*. Moreover, the political disagreement between the candidates for the first democratic government, one is from *Gyeongsang-do* and the other from *Jeolla-do*, decisively mobilized people in accord with their regional identity. After regional political support became a regular political issue, other provinces such as *Chungcheong-do* tried to have their regional political party win elections, but they had little power due to their underpopulation and their weak motivation compared to *Jeolla* and *Gyeongsang-do*.

⁶⁰ Despite the fact that regional issues are frequently criticized as a culprit of Korean politics, politicians cunningly encourage regional supports for their advantage over campaigns.

The difference in political participation between border regions and non-border regions in a unitary nation is somewhat questionable because there are conflicting ideas.⁶¹ Nonetheless, considering South Korean political circumstances and sub-national borders, the political engagement through voting near borders is expected to be less than that in other regions because of the decline in regional-based competition.

For blunt comparison between border and non-border regions, the mean differences in voter turnout are tested by the t-test.⁶² As seen on Table 4.4, the average voter turnout between border and non-border area is not statistically different with $p < .05$ level. However, in terms of the third variable that indicates the differences between presidential and parliamentary election turnouts, the test suggests there exists certain characteristics that can be differentiated by not only regions, but also the type of political election.

Table 4.4. Independent samples t-test results for voter turnout.

| | Levene's Test for Equality of Variances | | T-test for Equality of Means | | | | | | |
|------------|---|------|------------------------------|---------|-------------------------|-----------------|-----------------------|---|-------|
| | F | Sig. | t | df | Significance (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Upper | Lower |
| President | .267 | .606 | 1.583 | 232 | .115 | .948 | .599 | -.232 | 2.127 |
| | | | 1.621 | 177.669 | .107 | .948 | .585 | -.206 | 2.102 |
| Parliament | .067 | .796 | -1.526 | 232 | .128 | -1.527 | 1.000 | -3.497 | .444 |
| | | | -1.522 | 164.621 | .130 | -1.527 | 1.003 | -3.507 | .454 |
| Pres-parl | .656 | .419 | 3.096 | 232 | .002 | 2.475 | .799 | .900 | 4.050 |
| | | | 3.169 | 177.613 | .002 | 2.475 | .781 | .934 | 4.015 |

Note: The mean differences are calculated values: voter turnout in non-border region – voter turnout in border region.

⁶¹ As reviewed in Chapter 2, the absence of the escapability of policies may cause no difference in voter turnout between border and non-border region, while the degree of partisanship in border region, which could be weak, could possibly make borderlanders vote less than non-border residents.

⁶² For other dependent variables, the t-test for mean differences does not seem necessary because the values for each municipality vary considerably, so they need regression tests to be controlled by seemingly influential aspects. However, voter turnout for 234 cases does not dramatically vary, so the t-test is expected to help with initial information about the dataset.

As seen on Table 4.4, the estimated mean differences between border and non-border regions for the differences between presidential and parliamentary election turnout, named as Pres-parl, are positive.⁶³ This suggests border residents and non-border residents have different voting behaviors for national and local elections. The results do not interpret straightforwardly since they exhibit statistical significance only with the third variable, an ambiguous number, and they do not include other parameters that could possibly explain the tendency better.

Having brief information about voting behaviors in border versus non-border regions, the simple ordinary least-squares (OLS) regressions with only explanatory variables are initially run, and Table 4.5 presents the findings.

Table 4.5. OLS regression results for voter turnout data.

| Dependent Variable | President | Parliament | Pres-parl |
|-----------------------|-----------|------------|-----------|
| Independent Variables | | | |
| Internal Border | | | |
| b | -1.468* | 1.657 | -3.124** |
| (SE) | (0.695) | (1.169) | (0.918) |
| Coast | | | |
| b | -1.496* | 0.883 | -2.379* |
| (SE) | (0.710) | (1.193) | (0.937) |
| Internal border*coast | | | |
| b | 0.016 | 0.804 | -0.787 |
| (SE) | (1.697) | (2.852) | (2.240) |
| Northern border | | | |
| b | 0.580 | 3.551 | -2.971 |
| (SE) | (1.572) | (2.641) | (2.075) |
| Constant | | | |
| b | 65.430** | 48.955** | 16.475** |
| (SE) | (0.477) | (0.802) | (0.630) |
| R ² | 0.034 | 0.022 | 0.083 |

Note: OLS regressions for President and Parliament are run with simple voter turnout for each municipality, and Pres-parl means the raw number subtractions. N=234.

+ $p < .10$, * $p < .05$, ** $p < .01$

⁶³ Positive number of mean differences means the value for the non-border region is bigger than the value for the border region. This could mean the less participation in a presidential election, but more participation in parliamentary election near borders.

Table 4.5 apparently shows borderlanders are less likely to participate in presidential elections than people elsewhere, while they do not seem to have distinct characteristics of voting behavior on parliamentary elections.⁶⁴ The negative estimated coefficient for border regions on presidential election -1.468 is statistically significant, which confirms the t-tests results that borderlanders may engage in presidential elections less than others.

Moreover, border effects on political participation become clearer on ordinary least-squares (OLS) regression of differences of presidential and parliamentary elections' voter turnouts. The variance coefficient is -3.124 for the border region, which is a quite notable number, compared to other coefficient values for coastal or internal border•coastal region; moreover, it is significant at $p < .01$. That is, returning to the previous regressions stating people near borders do not join in presidential elections as much as non-border residents; while, non-border residents do not join in parliamentary elections as much as border residents.⁶⁵

For robustness checks, various regressions were calculations using three sets of combinations. In Table 4.6, OLS 1 is run with (natural log of) population and (natural log of) population density as control variables. They should add the most powerful influences on explanation by OLS regression results;⁶⁶ then, regional conditions such as city and island are

⁶⁴ Despite its statistical insignificance, the positive coefficients for border region in terms of parliamentary election make better sense to t-test results implying people near borders are more interested in voting for parliaments than for the president.

⁶⁵ The estimated coefficients suggest that coastal regions follow border characteristics. And, internal border•coastal regions do not necessarily have a certain tendency on national and local elections.

⁶⁶ It turned out that population affects election results the most compared among other dependent variables throughout this study. Therefore, political engagement comes to include OLS regression only with population and population density.

added in OLS 2; finally, province dummy variables are added for regional specific information.

Table 4.6. OLS regression results for voter turnout for various models.

| | OLS Models | | | | | | | | |
|-----------------------|------------|------------------|----------|----------|-------------------|----------|-----------|------------------|----------|
| | (1) | President (2) | (3) | (1) | Parliament (2) | (3) | (1) | Pres-parl (2) | (3) |
| Internal border | | | | | | | | | |
| b | -1.521* | -1.423* | -2.514** | 1.517+ | 1.463+ | 2.598** | -3.038** | -2.886** | -2.832** |
| (SE) | (0.600) | (0.599) | (0.788) | (0.809) | (0.808) | (0.769) | (0.786) | (0.764) | (0.738) |
| Coast | | | | | | | | | |
| b | -2.073** | -1.678** | -1.705** | -0.473 | -1.105 | -0.798 | -1.600* | -0.573 | -0.907 |
| (SE) | (0.611) | (0.638) | (0.548) | (0.824) | (0.861) | (0.808) | (0.801) | (0.814) | (0.775) |
| Internal border*coast | | | | | | | | | |
| b | -0.092 | -0.205 | -0.871 | 0.968 | 1.563 | 0.749 | -0.876 | -1.768 | -1.620 |
| (SE) | (1.455) | (1.460) | (1.236) | (1.963) | (1.969) | (1.821) | (1.907) | (1.862) | (1.748) |
| Northern border | | | | | | | | | |
| b | -1.876 | -2.070 | 0.858 | -2.220 | -1.951 | 0.106 | 0.345 | -0.119 | 0.752 |
| (SE) | (1.373) | (1.366) | (1.270) | (1.853) | (1.841) | (1.872) | (1.800) | (1.742) | (1.797) |
| ln(pop) | | | | | | | | | |
| b | -1.551** | -1.432** | -1.403** | -3.565** | -3.560** | -3.707** | 2.014** | 2.128** | 2.303** |
| (SE) | (0.397) | (0.417) | (0.357) | (0.535) | (0.562) | (0.527) | (0.520) | (0.532) | (0.506) |
| ln(p-density) | | | | | | | | | |
| b | -0.386* | -0.656* | -0.384 | -0.944** | -0.781* | -0.159 | 0.558* | 0.125 | -0.225 |
| (SE) | (0.189) | (0.264) | (0.237) | (0.255) | (0.356) | (0.350) | (0.248) | (0.337) | (0.335) |
| City | | | | | | | | | |
| b | | 1.162 | | | -0.644 | | | 1.806* | |
| (SE) | | (0.842) | | | (1.135) | | | (1.073) | |
| Island | | | | | | | | | |
| b | | -2.310+ | -1.917 | | 3.770* | 2.907+ | | -6.080** | -4.824** |
| (SE) | | (1.197) | (1.218) | | (1.614) | (1.795) | | (1.527) | (1.723) |
| Gyeonggi | | | | | | | | | |
| b | | | -0.234 | | | -1.654 | | | -0.860 |
| (SE) | | | (0.522) | | | (1.162) | | | (1.115) |
| Gangwon | | | | | | | | | |
| b | | | -3.323** | | | 2.568 | | | -5.890** |
| (SE) | | | (1.160) | | | (1.709) | | | (1.641) |
| Chungcheong | | | | | | | | | |
| b | | | -3.538** | | | 1.459 | | | -4.997** |
| (SE) | | | (-.954) | | | (1.406) | | | (1.349) |
| Jeolla | | | | | | | | | |
| b | | | 1.586 | | | 1.763 | | | -0.177 |
| (SE) | | | (0.946) | | | (1.394) | | | (1.338) |
| Gyeongsang | | | | | | | | | |
| b | | | 2.570** | | | 6.258** | | | -3.688** |
| (SE) | | | (0.910) | | | (1.341) | | | (1.288) |
| Jeju | | | | | | | | | |
| b | | | -2.909 | | | 4.948 | | | -7.858** |
| (SE) | | | (2.063) | | | (3.040) | | | (2.918) |
| Constant | | | | | | | | | |
| b | 86.418** | 86.344** | 84.485** | 97.573** | 96.670** | 92.054** | -11.155 * | -10.326* | -7.570+ |
| (SE) | (3.795) | (3.854) | (3.393) | (5.120) | (5.196) | (5.001) | (4.973) | (4.914) | (4.800) |
| R ² | 0.297 | 0.314 | 0.525 | 0.542 | 0.553 | 0.630 | 0.343 | 0.393 | 0.482 |
| Adj. R ² | 0.279 | 0.290 | 0.497 | 0.529 | 0.537 | 0.608 | 0.326 | 0.371 | 0.452 |

Note: Unexpected, but seemingly strong results on initial tests lead to detailed three sets of combinations. For robustness checks, OLS 1 includes the population and population density; additional regions are added in OLS 2; OLS 3 includes all control variables automatically excluding city variable. N=234.

+ $p < .10$, * $p < .05$, ** $p < .01$

Table 4.6 shows OLS regression results for political phenomena are reasonably steady, in general, corresponding to the results from Table 4.5. Throughout OLS 1-3 regressions for all dependent variables, the coefficients for border regions retain their negative, positive, and negative values for presidential, parliamentary, and the differences of the two, respectively. They do not seem to vary considerably by controlling other variables. Furthermore, they are all significant at least at $p < .05$ level, and some of them are significant at $p < .01$. This strongly indicates that people near sub-national borders are more likely to vote for presidential candidates, but less to vote for parliamentary candidates than people in non-border areas.

On the other hand, municipalities along the coastal line display the similar phenomenon in presidential voting behavior with border regions; whereas, their voting behavior for parliaments is quite the opposite as border regions. Although their coefficients are not statistically significant, it seems coastal residents are not interested in both elections compared to people elsewhere.⁶⁷

The OLS regression results for the variation between two political events support the previous regression results; they indicate a different pattern for borderland's voting behavior as noted above. Since the differences between presidential and parliamentary election voter

⁶⁷ Since internal border•coastal regions do not exhibit statistically significant coefficient values, it seems the two regional characteristics cancel out each other. One question that can arise in this context is about the coefficient for internal border•costal region in terms of presidential election, which is supposedly to have a higher value indicating both border and coastal characteristics. However, to the extent that it still remains a negative value and is not statistically significant, this study focuses more on characteristics of border areas.

turnout near borders are noticeable, it additionally suggests that people on the edge of a province may have different motivations for presidential and parliamentary elections.⁶⁸

4.3. Border Effects on Economic Performance

Border effects on economic performances are indeed the most evident findings on border studies, so their tendency in a unitary nation could be compared with previous ones. However, it turns out that border effects in a unitary nation tend to have somewhat different features as opposed to national and sub-national border effects in a federation.

By the same strategy, ordinary least-squares (OLS) regressions with only independent variables were first run, but unlike earlier tests, these results do not show a clear interpretation on economic performance in border regions; even the regressions *per se* were not statistically significant. Thus, OLS regressions with all control variables are run, as seen in Table 4.7. Still, this does not present much about economic activities in borderlands, not as much as expected to be; however, these coefficients offer some information about what happens on the edge of provinces.

First of all, regarding the first four dependent variables as the indices of economic growth, estimated coefficients for them, except for land value changes in residential area (LV.residence), suggest that border regions are not statistically different from other areas. Especially, their values seem relatively trivial compared to the coefficients for the control variables, so they do not seem to have explanatory power in terms of economic growth.⁶⁹

⁶⁸ There are two possible reasons and they are discussed in Chapter 5.

⁶⁹ For example, the coefficient for border region in employed regression is .280, while the coefficient for island is 4.823. Also, other regional dummy variables have critical values such as -5.260 and 3.847 at $p < .01$ level.

Table 4.7. OLS regression results for economic activity for various models.

| | OLS Models | | | | | |
|-----------------------|------------|-----------|--------------|-------------|---------------|-------------|
| | Employed | Jobs | LV.residence | LV.business | Manufacturing | Cultivation |
| Internal border | | | | | | |
| b | 0.280 | -3.845 | 0.127+ | 0.031 | 3.269* | -0.943+ |
| (SE) | (0.728) | (3.422) | (0.073) | (0.074) | (1.750) | (0.566) |
| Coast | | | | | | |
| b | -0.730 | -2.088 | 0.143+ | 0.097 | 0.710 | 2.395+ |
| (SE) | (0.764) | (3.592) | (0.076) | (0.078) | (2.757) | (1.506) |
| Internal border*coast | | | | | | |
| b | -1.508 | 4.652 | -0.065 | 0.043 | 8.321** | 1.916 |
| (SE) | (1.723) | (8.100) | (0.172) | (0.176) | (3.231) | (2.473) |
| Northern border | | | | | | |
| b | -0.201 | 2.028 | 0.098 | 0.011 | 4.406 | -0.311 |
| (SE) | (1.771) | (8.326) | (0.177) | (0.181) | (4.056) | (3.655) |
| ln(pop) | | | | | | |
| b | -2.055** | -10.472** | 0.062 | 0.096* | 5.307** | 1.231 |
| (SE) | (0.498) | (2.343) | (0.050) | (0.051) | (1.141) | (0.843) |
| ln(p-density) | | | | | | |
| b | -1.463** | 0.418 | -0.030 | -0.075* | -0.710 | -0.824 |
| (SE) | (0.331) | (1.555) | (0.033) | (0.034) | (0.757) | (1.280) |
| Island | | | | | | |
| b | 4.823** | -2.717 | 0.013 | -0.114 | -0.751 | 0.171 |
| (SE) | (1.698) | (7.983) | (0.169) | (0.182) | (3.881) | (2.823) |
| Gyeonggi | | | | | | |
| b | 1.829+ | -4.312 | 0.375 | 0.343** | 5.541* | 2.538 |
| (SE) | (1.099) | (5.167) | (0.110) | (0.113) | (2.440) | (1.779) |
| Gangwon | | | | | | |
| b | -5.260** | -14.325+ | -0.057 | -0.070 | -11.617** | -3.495 |
| (SE) | (1.617) | (7.603) | (0.161) | (0.167) | (3.704) | (2.650) |
| Chungcheong | | | | | | |
| b | 0.948 | -5.921 | -0.324* | -0.358** | -2.184 | 6.606** |
| (SE) | (1.330) | (6.252) | (0.133) | (0.138) | (2.993) | (2.193) |
| Jeolla | | | | | | |
| b | 3.847** | -3.740 | -0.298* | -0.321** | -10.164** | 5.492* |
| (SE) | (1.319) | (6.202) | (0.132) | (0.138) | (3.021) | (2.277) |
| Gyeongsang | | | | | | |
| b | 2.082+ | -4.695 | -0.106 | -0.001 | -2.915 | 1.304 |
| (SE) | (1.269) | (5.967) | (0.127) | (0.132) | (2.833) | (2.111) |
| Jeju | | | | | | |
| b | 1.829 | 2.714 | -0.001 | -0.041 | -16.696* | -8.745* |
| (SE) | (2.875) | (13.520) | (0.287) | (0.304) | (6.586) | (4.742) |
| Constant | | | | | | |
| b | 85.426** | 182.409** | -0.324 | -0.300 | -38.126** | -3.420 |
| (SE) | (4.730) | (22.242) | (0.472) | (0.489) | (10.835) | (7.743) |
| R ² | 0.666 | 0.183 | 0.225 | 0.200 | 0.416 | 0.393 |
| Adj. R ² | 0.646 | 0.135 | 0.179 | 0.152 | 0.381 | 0.375 |

Note: The OLS regression for cultivation variable is run with other dummy variable named “Plain” variable. There should be naturally favorable conditions for agriculture, and those regions are called plain in South Korea. The municipalities with plain areas are coded as 1 and 0 otherwise. Since the coefficient for this control variable is considerably high as expected, it is not reported. N=234.

+ $p < .10$, * $p < .05$, ** $p < .01$

In terms of other independent variables, coastal and internal border•coastal regions do not present important variations, while control variables better explain the economic growth; the northern border variable does not offer any powerful results for all dependent variables about economic phenomena.

One possible interpretation for economic growth would be that border regions are becoming popular for residential areas. However, because the values of land value changes in residential area (LV.residence) are a one-year fixed rate, it cannot be compared whether border or non-border region is a more concentrated residential area; this makes it difficult to consider border regions as favorable places to live. Furthermore, the coefficient for internal border•coastal region is not consistent with two regional characteristics.

Second, in terms of economic type theory with manufacturing and cultivation variables, Table 4.7 suggests a likelihood of the type of industry that better fits borderlands. The border condition more favorable to manufacturing industry rather than others, e.g., agricultural industry, examined in this study, is proven to a certain extent. A manufacturing coefficient of 3.269 implies the prosperity of production business near borders. It may not be caused by the same reason that Holmes (1996) maintains the popularity of the border region for manufacturing industry, since South Korea is a unitary nation. However, this must be due to regional convenience for trade and transportation. The relatively high coefficient of 8.321 for internal border•coastal region supports the same logic.

For a comparison between the different types of industry, the cultivation variable has been used to refer to the agricultural variable. Even though the cultivation regression includes the “*Plain*” variable to control for natural conditions, it could be slightly biased.⁷⁰ However, in general, the negative coefficient for border regions in terms of the cultivation variable relatively supports the popularity of manufacturing industry in the borderlands.

⁷⁰ The “*Plain*” variable refers to the municipality that is defined as in the “*Plain*” in South Korea. However, there are considerable agricultural places around rivers, which is not named as “*Plain*.” The coefficient for coastal region of 2.395 might suggest that because the rivers in South Korea tends to start from the oceans.

CHAPTER 5. CONCLUSIONS

In terms of the two thesis questions, the study's results present a positive finding for the cultural hypothesis and somewhat varied findings for the political and economic hypotheses. The results for cosmopolitanism in borderlands have been fairly consistent, even though they still have room for debate on the direct causation. And, surprisingly, in economic performance, where previous theories provided the most powerful expectation of border effects, sub-national border effects in a unitary nation turn out to be minor. Instead, it was political phenomena in border regions that saw an interesting, robust ordinary least-squares (OLS) regression results.

As the findings on cultural and economic phenomena are relatively descriptive by the regression results *per se*, possible explanations for political engagement in internal border regions, in comparison with non-border regions, must be discussed. The stories about political participation in borderlands would require additional research, but they seem fairly corresponding to the analytical results from Chapter 4. Following these arguments, the conclusion summarizing all three hypotheses suggests overall implications and further research.

5.1. Discussions on Border Effects

As summarized in Chapter 2, the border effects have been mostly studied in terms of their economic implications. For both international borders and intra-national borders, their effects have been seen with “home bias” theories in that borders split up economic flows as they divide regions. However, as many scholars have mentioned (Anderson, 1983; Alvarez, 1995; Wilson and Donnan, 1998), borders are not just physically disjointed points; they have

more implications for politics and identity. To the extent that the results of sub-national border effects on political phenomena clearly show the robust consistency, therefore, it would be worth analyzing how this tendency on the edge occurs consistently.

In a unitary nation like South Korea, the border effects on political participation seem to be questionable because of little theoretical backgrounds, while political party preferences along the sub-national borderlines have been seemingly detectable. However, this study suggests sub-national borders do affect how many⁷¹ border residents engage in presidential and parliamentary election through their voting rights. In comparison with people in non-border regions, the findings indicate that people who live in borderlands are less likely to vote for president, but more likely to vote for parliamentary candidates. Even with the third generated dependent variable, the subtraction of parliamentary turnout from presidential turnout, the borderlanders' propensity to vote has not changed.

Two scenarios can be discussed. First, it would be caused by the variation of residents' hometown in border regions. As found in the cultural hypothesis test, people near borders tend to be more wanderlust than people elsewhere; the cosmopolitan border residents are not reluctant to live in a foreign district, and they are willing to marry foreigners. This suggests that borderlands have more people with different regional backgrounds.⁷² For instance, if a person has been moving to or from the different province even if due to their

⁷¹ As mentioned before, this study used only quantitative voter turnout for presidential and parliamentary election without regarding to how strongly people are willing to participate in politics. Thus, it should be better saying "how many," in this context.

⁷² For regional background search, the total number of population of moving-in from different province has been examined. The results demonstrate a positive relationship between borderland and moving-in numbers.

physical closeness to other provinces,⁷³ has been working with people from other provinces, and has been married to a person from different province or country, it should reflect their regional identity as more tolerant for others. Thus, when it comes to presidential election, which is more regionally divided in South Korea, borderlanders would not be encouraged as much as people elsewhere to support the particularly regional political party.

However, regarding parliamentary elections, people who do not live along sub-national borders, but live around the center of a province,⁷⁴ seem to have less incentives to vote for parliaments than people in border areas. Since non-border residents tend to have strong regionally-attached political preferences, the results of the vote in these regions would be more biased than the results expected for borderlands with regional diversity. This certainty on political preference in non-border regions is likely to depress the turnout for parliamentary elections; while, in border regions, people would be aware that parliamentary elections in their own municipality tend to be more competitive compared to other municipalities.

Based on these two stories, the voting tendency in border regions versus non-border regions seems reasonable. Although these two sorts of regions do not seem to differ at the first glance by the initial t-test, by controlling influential variables and increasing the explanatory power of regressions, border areas appear to have interesting, differentiating characteristics in terms of political participation. Moreover, the fact that the political results

⁷³ Assuming people take time and money moving for 30 *km*, people near borders would have a greater chance to end up living in a different province even though they do not take borderness into account.

⁷⁴ Since OLS regression includes the coastal area as another independent variable, non-border regions, which are the baseline of the regression tests, should mean more central areas.

are supported by another hypothesis test such as cultural phenomena in borderlands suggests stronger interpretations; this suggests cultural identity such as regional attachment plays an important role in political behaviors.

5.2. Conclusion

Inspired by geographical impacts on human societies, this research has been started by asking how people would be affected by borders in accordance to their cultural, political, and economic behaviors. As national frontiers, international borders play a significant role, despite the “borderless world” argument. Intra-national borders, on the other hand, vary in accordance with their jurisdictional powers; borders within a federation are expected to have more effects than within a unitary nation borders.

Against previous theories that studied border effects along with institutional differences mostly about economic implications, this paper examined borderness in three perspectives with no institutional differences. Using various regression analyses, it was determined that the sub-national border effects exist; furthermore, it can be concluded there are other factors than institutional differences, which generate border effects in a unitary nation.⁷⁵

For cultural phenomena, cosmopolitanism in borderlands is positively found. The frequent interactions around border areas indicate the borderlanders’ characteristics of being open-minded to foreign districts and people. These results are not considerably strong, but

⁷⁵ In Alvarez’s (1995) terms, the concepts inherent in the borders are alert to the shifting of behavior and identity and the reconfiguration of social patterns at the dynamic interstices of cultural practices.

the consistency of the tests suggests their more favorable attitude to non-nativeness compared to people in non-border regions.

This supports the second findings about political engagement to a certain extent. The cosmopolitan characteristics in borderlands and the diversity of regional backgrounds, due to interactions across borders, make people less interested in regionally-divided competition. Conversely, parliamentary election turnouts in non-border regions tend to be lower than elsewhere because people would be aware that regionally-attached support would end up with quite biased results and this fact can depress the turnout. In other words, regional identity determines how people engage in political elections by means of vote; borderlanders are less likely to participate in presidential elections, equally competitive across municipalities, while non-borderlands people are less motivated to vote in parliamentary elections, not so much competitive in non-border municipalities.

Sub-national border effects on economic activity seem to have limited implications. Although the hypotheses expected border effects on economic growth and type of industry, the results only support the latter hypothesis. This suggests that intra-national borders in a unitary nation would play a quite different role compared to other border examples. The prosperity of manufacturing industry in border regions, for example, tends to be derived from the trade advantage at the boundaries, rather than policies emphasized with respect to other border effects.

Given the results of this study and the likelihood examples explaining the phenomena in borderlands, this paper concludes that sub-national borders with weak jurisdictional power do also have cultural implications for regional identity, but have varied effects from other borders as powerful jurisdictional lines. Therefore, this suggests that borderlands in a unitary

nation would be a more suitable place to solve nationally-competitive issues because they tend to not strongly belong to a certain regional characteristics. In terms of political campaigns, moreover, borderlands would need to be more encouraged to vote for president to mitigate regional division to the South Korean extent. On the other hand, it would be a pessimistic argument that borderlands have much potential for economic growth by large volume of trade.

However, this study leaves room for sub-national border effects on economic activities. Due to data unavailability, the research on intra-national trade has not been attempted. Although it is possible to assume the volume of trade by the proportion of manufacturing industry, the actual values of import and export trade across individual municipalities would allow a direct comparison of “home bias” effects from sub-national borders in a unitary nation with previous findings. Also, for political implications, the election data from various years would help to determine the strength of the results.

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